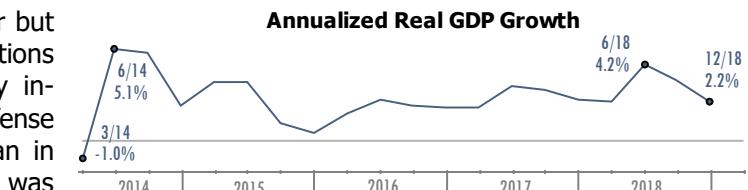
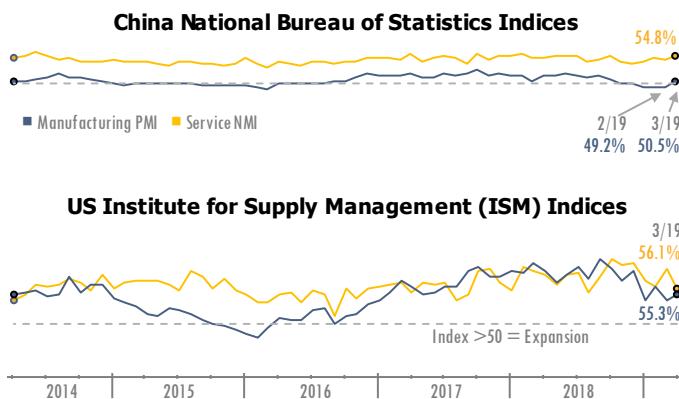


# MARKET Recap

## The US Economy: “Pumping the Gas Pedal”

Economic growth slowed in the tumultuous fourth quarter but remained positive. Slower growth was driven by decelerations in personal consumption expenditures, private inventory investment, and government spending. Federal non-defense spending fell sharply as the government shutdown began in December and continued through January. The shutdown was transient, and slowing of inventory investment and personal consumption were likely related to negative sentiment given the sharp market correction; they may prove somewhat transient as well, but only time will tell.

Many economic indicators looked positive through the first quarter, with February retail sales the main negative outlier. The US non-manufacturing ISM index did retreat in March following a strong February surge, but it remained in expansionary territory. Softening measurements of business activity and new orders for retail and wholesale trade contributed to the downdick, along with educational services and (for business activity) finance & insurance. The 12 other service industries surveyed showed growth in activity and orders. Importantly, for the short run, the two main worries which drove the Q4 selloff (slowing growth in China and relatively “hawkish” US monetary policy) appear to have faded.



Long-term readers know how much we focus on the Purchasing Manager’s Index and its non-manufacturing sibling as leading indicators of economic performance. The venerable PMI has been globalized to most major national economies, including China. March data for China’s (much larger) manufacturing sector showed signs of recovery, and the (much smaller) services index remained in expansionary territory. There are many caveats to the data, most notably that large state-owned enterprises tend to perform in an artificially smoothed manner, which is why period-to-period variance for China’s PMI is much smaller than for the US. However, there is value in the trend, and the trend appears positive as stimulative measures enacted last quarter may be taking hold.

Less newsworthy at this point, but more impactful for investors, is the Federal Reserve’s “kinder, gentler” approach to monetary policy. The FOMC made clear following their March 19-20 meeting that a rate hike is unlikely in 2019, and markets are pricing in a sizable probability of a cut. The Fed further announced that the runoff of balance sheet assets initiated in October 2017 will slow throughout the year and cease by year-end. Longer-term treasury yields fell, producing a flat yield curve, inverted at the very short end. It is not clear to what degree the curve shape is due to anticipation of recession, as opposed to other technical factors in the bond market. For example, corporate pension funds are de-risking, exerting downward pressure on long yields as they purchase additional long fixed income assets and derivatives. Simultaneously, the Fed will execute open market transactions to hold short-term rates at current policy levels until a decision to change policy becomes effective.

Last quarter we felt that the sharp correction in the stock market was overblown, as the forces driving the correction were much more gradual than the ferocity of the selloff would indicate. It is remarkable how little data is required to move inflated asset prices sharply! Similarly, the mostly positive data which emerged in Q1 hardly justifies a sharp run-up. Global growth is still slowing, particularly for Europe, driven by long-term factors. The Fed has stopped riding the brakes but seems less keen than Wall Street to pump the gas pedal. So, by the same logic, we don’t think the Q1 recovery portends a renewal of the bull market – rather, it’s more of a correction to the correction.

### Federal Reserve Survey Pre- and Post-Correction

	2019 Median			Longer Run Median		
	9/18	3/19	Δ	9/18	3/19	Δ
Change in Real GDP	2.5	2.1	-0.4	1.8	1.9	+0.1
Unemployment	3.5	3.7	+0.2	4.5	4.3	-0.2
PCE Inflation	2.0	1.8	-0.2	2.0	2.0	0.0
Fed Funds Rate	3.1	2.4	-0.7	3.0	2.8	-0.2

## The US Bond Market

Last quarter, we reported an abrupt turnaround in the projected path of interest rates as the potential for a cut appeared on the horizon. Much of Q1 was characterized by renewed economic optimism and appetites for risk, which pushed yields higher. However, weak economic data from the Eurozone in late March, combined with patience from the Fed and European Central Bank, prompted a sharp drop in Treasury yields. The 10-year yield declined a solid 25 basis points in the week following the Fed meeting. At the end of March, the 3-month, 1-year, and 10-year Treasury key rates all settled to within a basis point of 2.40%, just above the 2.375% target overnight Fed policy rate.

Aside from an anomalous bump within US Treasury bill yields, the short end of the curve appeared in line with the rest of the yield curve's slope at the beginning of the quarter. Now, T-bills look out of place within the context of the greater

US Bond Index Returns	
Bloomberg Barclays	1Q19
Aggregate	2.94%
Interm. Gov't	1.58%
Long Gov't	4.64%
TIPS	3.19%
Municipal	2.90%
Interm. Credit	3.55%
Long Credit	7.86%
High Yield	7.26%
MBS	2.17%

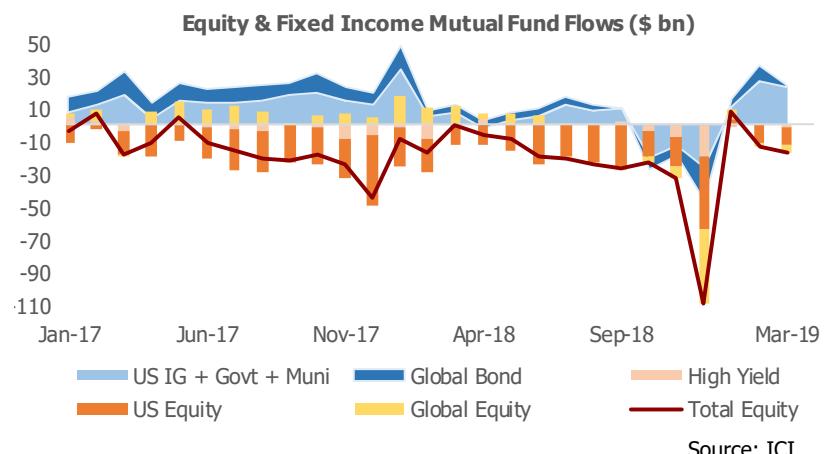
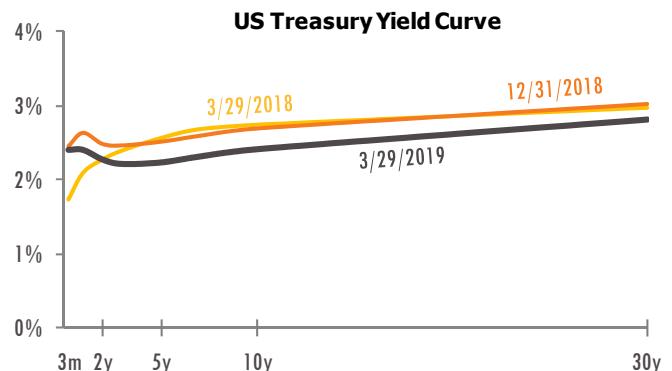
yield curve. This is nothing new. For most of the past 10 years, we have seen the Fed target an overnight rate lower than prevailing market forces would have dictated. The difference now is that the Fed's policy, despite continuing to target a relatively low yield by historical standards, might be considered more hawkish (cautious of inflation) than dovish (supporting employment). So, while the Fed emphasizes "patience" in future rate decisions, the market sees short-term rates at least 25 basis points higher than where they fit on the curve. Fed Funds futures imply the Fed will do far more than advertised, attaching a 75% probability of a rate decrease in 2019 and pricing in roughly two full 0.25% rate cuts, in total, by 2021.

Across all segments, US fixed income securities posted strong returns for the quarter. Lower yields and tighter spreads benefitted high yield and longer-duration credit the most. High yield spreads fell off their recent near-peak year-end close of 5.33% to end the first quarter just below 4%. Most of this action occurred in the first two weeks of the year. BBB-quality

spreads declined a respectable 41 basis points. Despite the Fed noting lower inflation, TIPS were also among the better performing sectors, largely thanks to their lengthy duration (8.0 years compared with 5.9 on the Aggregate). High yield issuance, having almost evaporated in the fourth quarter at \$3.6 billion in November and \$0.6 billion in December, amounted to a healthy \$67.2 billion spread evenly through Q1. This comes in slightly ahead of the same period one year prior. Investment grade issuance also returned to a healthy \$315 billion, slightly behind Q1 2018.

Wary of fragile economies and unsure of which direction monetary and trade policy will move, investors fled both fixed income and equity funds in December. This year, money has poured back in, but the movement has skewed toward fixed income. A net gain of \$54 billion into fixed income mutual funds and ETFs was recorded from December through March, while \$39 billion exited from equity funds over the period. The present equity bull market has begun to show its age and would be due for retirement if measured in dog years. Whether due to geopolitics or corporate earnings, each temporary reversal in momentum has triggered a renewed rush for the safety of investment grade fixed income.

Prime money market funds, in particular, have been the biggest winner of flows recently within fixed income. The rebound comes after the asset class was burdened by historically low short-term rates and tumultuous regulatory changes in 2016 that pushed roughly half a trillion dollars from prime to government money market funds. Prime money market funds regained almost \$100 billion in assets from July through February as short-term yields and credit spreads finally rose to a meaningful level and appeared attractive against other asset classes where volatility has surfaced and valuations, to many, appear stretched.

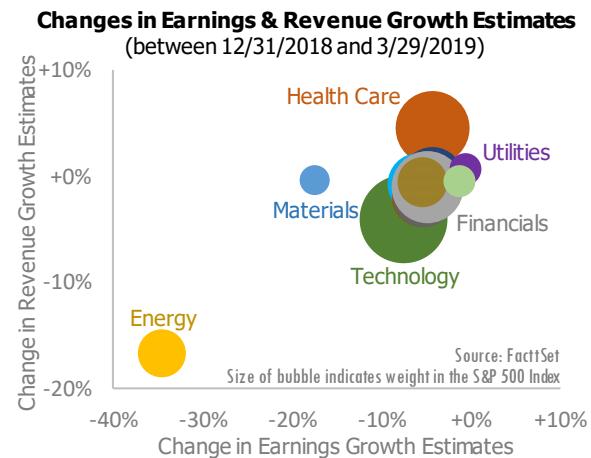


Source: ICI

## The US Stock Market

In a reversal from 4Q 2018, US stocks came roaring back in 2019 across all sectors. As trade tensions with China appeared to ease and the Fed backed off on rate increases, investors shrugged off recession fears. The S&P 500 had its best quarter in over nine years and its best Q1 since 1998.

However, if the general consensus about Q4 was that investors oversold stocks, in Q1 it was that investors overbought. While some of the issues driving negative sentiment stabilized, many remained, including deteriorating global economic and manufacturing data, a widening US trade deficit, and the Brexit debacle. More cracks in the case for strong fundamentals in US stocks could be added to that list as earnings growth for the companies in the S&P 500 is expected to decline by 3.9% (YoY), with 79 of the 107 companies issuing guidance giving downward revisions. If it materializes, this would be the first decline in quarterly earnings since Q2 2016. Over half of the negative guidance came from firms in the technology and health care sectors, the top- and bottom-performers for the quarter.

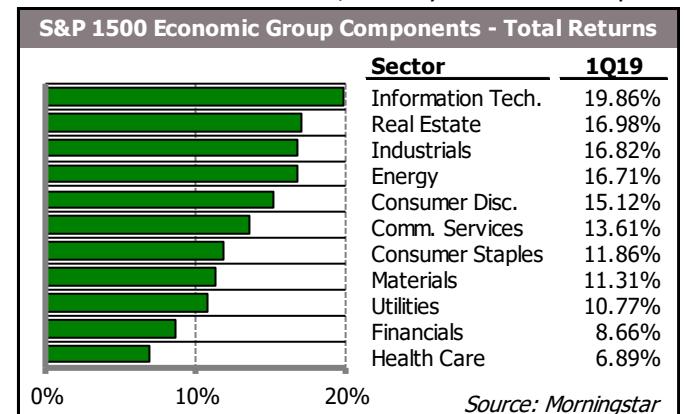


The Q1 bottom-up EPS estimate (an aggregation of median analyst estimates for all companies in the index) declined by 7.2% over the quarter, two times the 5- and 10-year averages and the largest drop since 1Q 2016 [FactSet]. The greatest declines were seen in energy and materials, which tend to be the most sensitive to commodity prices, as well as in technology. Full-year forecasts are still positive for all sectors except materials and energy. In contrast, Q1 revenue growth for companies in the S&P 500 is projected to increase by 4.8% (YoY). Only the energy and technology sectors are expected to report declines, of -3.5% and -1.0%, respectively. Given the double-digit return for the index, investors seem willing to ride out a short-term margin problem.

The Q4 rotation to value turned out to be short-lived as growth outperformed across all capitalizations. The FAANGs rebounded, posting returns ranging from 13% for Google-parent Alphabet to 33% for Netflix. Technology was the top performer, led by its hardware and equipment industry. As the largest sector weight in the S&P 500 index, tech is a significant driver of the index's performance. With declines projected for both earnings growth and revenue growth, it seems unlikely that tech stocks will be particularly supportive of index performance in the near future. In other sectors, lower yields over the quarter were a driver of returns in REITs and, to a lesser extent, utilities, two sectors traditionally used by investors as proxies for bonds. Conversely, the rates-sensitive financials sector was one of the worst performers. Tighter supplies drove up oil prices, helping energy recover after two consecutive quarters as the worst-performing sector.

Volatility subsided over Q1, atypical in late-cycle markets. With the expectation of its return later in the year, the case for active management as a means to diversify away from index products – which tend to be highly correlated with markets – has begun to gain more press. While a volatile market can make it easier for an actively-managed strategy to distinguish itself from its benchmark, it is not always a positive distinction.

US Stock Indices - Total Returns			
	<b>Large-cap Stocks</b>	<b>Mid-cap Stocks</b>	<b>Small-cap Stocks</b>
	<b>1Q19</b>		<b>1Q19</b>
S&P 500	13.65%	S&P Midcap 400	14.49%
Russell 1000	14.00%	Russell Midcap	16.54%
Growth	16.10%	Growth	19.62%
Value	11.93%	Value	14.37%
<b>Broad Markets</b>		<b>Small-cap Stocks</b>	
S&P 1500	13.64%	S&P Smallcap 600	11.61%
Russell 3000	14.04%	Russell 2000	14.58%
Growth	16.18%	Growth	17.14%
Value	11.93%	Value	11.93%



## International Markets

The first quarter saw a bounce back in global markets after the turbulence of Q4. Volatility calmed as US-China trade talks appeared to thaw. Brexit remains unpredictable, but developed markets seem to have shrugged off both Brexit and weak global growth estimates. Emerging markets improved with the prospect of increased policy stimulus from China.

## Europe

European markets staged a strong recovery, as hopes of more accommodative monetary policy from the European Central Bank and the US Federal Reserve helped dismiss global macroeconomic concerns. Most markets registered the strongest gains of the quarter in January as the unexpected scale of the about-face on interest rates by European and US central banks boosted sentiment. However, at quarter end, the equity rally ran into sand as some major European economies showed signs of stalling growth and bond markets flashed warning signs.

Foreign Stock & Bond Indices - Total Returns			
MSCI Broad Indices	1Q19	Barcap Global Indices*	1Q19
MSCI ACWI ex-US	11.03%	Global Aggregate	2.20%
EAFFE (Developed)	9.98%	Pan-Euro	1.46%
Emerging Markets	9.91%	Asian-Pacific	0.91%
		Eurodollar	3.26%
		Euro-Yen	0.42%
<b>MSCI Regions</b>		<i>* Unhedged</i>	
Europe	10.84%	Other Currencies	6.72%
Japan	6.66%		
Pacific ex-Japan	12.24%		
Latin America	7.85%		

After tepid Q4 GDP growth in the Eurozone that barely picked up after Q3's weak performance, economic expectations remain somber for 2019. The ECB downgraded its growth projections for the region in the first quarter – the euro area is now expected to grow at 1.1% through the year, down from expectations of 1.7% last December. ECB President Mario Draghi took a dovish stance, suggesting that the central bank's accommodative monetary policy might remain in place beyond the summer, when the first of the hikes was widely expected. The ECB also initiated another program in March, providing liquidity support to stimulate bank lending and domestic demand in an effort to regain growth momentum. The accommodative stance of the ECB helped stabilize the euro, which had been languishing at some of its lowest levels in a year due to weak expectations. The euro ended 2018 at \$1.12, considerably below the 12-month high of \$1.25.

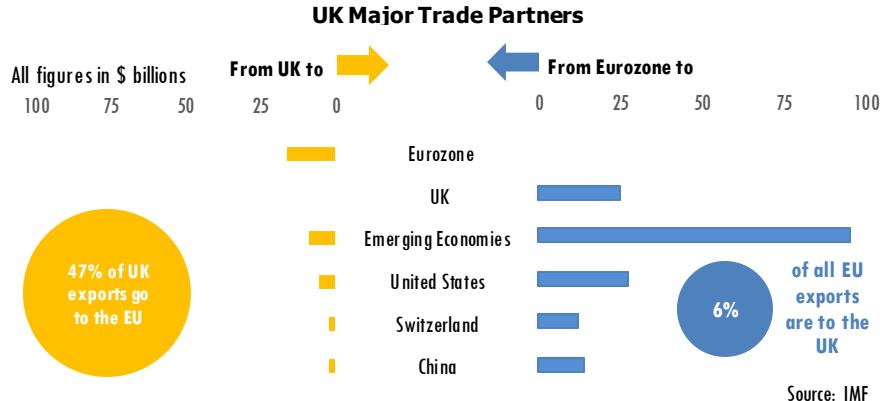
The British parliament overwhelmingly rejected all three Brexit deals proposed by Conservative PM Theresa May before the March 29<sup>th</sup> deadline. On the eve of the deadline, a parliamentarian was quoted as saying "All we know about tomorrow is that it's Friday." Due to lack of clarity regarding the political and economic fallout, capital investments shrunk in Q4 2018, causing the UK economy to grow at a disappointing 0.2% over the period. A no-deal Brexit could have significant adverse effects on trade. The UK has an outsized trade relation with other EU countries; and, with a no-deal Brexit, this could lead to major economic repercussions.

Across the English Channel, the French economy showed resilience amid the social unrest caused by the nationwide "yellow vest" protests against higher gasoline prices. As the demonstrations carried on through the fourth quarter of 2018, domestic demand and household spending stalled but were counterbalanced by strong export demand. Spain, too, registered robust growth in Q4 2018, with early indicators suggesting the momentum was carried forward into 2019.

Germany, however, posted mixed economic data in Q1 2019. After shrinking 0.2% in Q3, the Eurozone's largest economy stagnated in the fourth quarter of 2018 despite strong domestic demand. The country's export-oriented manufacturing sector suffered through a challenging economic climate, as global demand for German goods and automobiles dropped through March. A gloomier Eurozone outlook saw investors flocking to German bonds, driving yields below zero for the first time in two years. The German government continued with expansionary measures, including a higher minimum wage, which should help boost domestic consumption and support growth.

Italy's economic troubles continued as its GDP contracted by 0.1% for a second quarter in a row in Q4 2018. Sagging exports – a common theme across most European countries on account of weakening Chinese demand – coupled with lackluster business fixed investment and industrial production painted a bleak picture for the country. Consequently, consumer and business confidence continued to decline through the quarter and business sentiment fell to its lowest level in five years. With alarm bells ringing, Finance Minister Giovanni Tria acknowledged that the government could not afford to tighten fiscal policy as the economy was in the middle of a slowdown. Business lobby Confindustria slashed its growth forecast for the economy from 0.9% to 0.0% for 2019.

Turkey, another struggling economy, posted a fall in GDP of 2.4% in the fourth quarter of 2018. Interest rates remained high (at 24%) to stem the sharp decline in the lira, and credit growth saw a continued decline into 2019. This raises the possibility of a longer-than-expected slowdown in the economy while Turkey aims to recover from the credit bubble formed as a result of artificially low interest rates through most of the 2000s.



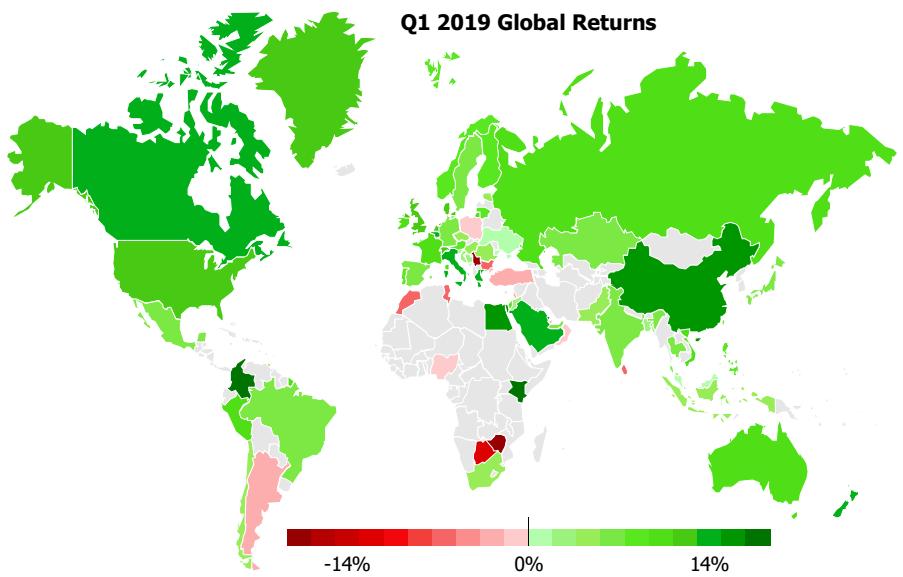
Source: IMF

## Americas

The pace of economic growth in Canada picked up in January, after Q4 saw the weakest quarterly growth since mid-2016. Economists had expected annualized growth of 1.2% in Q4, but the economy managed to eke out only 0.4%. The trade deficit also narrowed in January, falling to C\$4.2 billion from a record C\$4.8 billion shortfall in December. A recovery in global crude oil prices helped boost nominal exports, though volume remained stagnant. Equity markets reacted positively to the developments as the main equity index gained 12.4% through Q1, with every sector up at least 8%. In 2019, projections for growth are at 1.9% with expectations driven by slowing economic activity in the major provinces of Quebec and Ontario.

Emerging market economies followed global cues and recorded a robust bounce back to start off the year. The sharp U-turn in monetary policy by the US Fed and the ECB helped power EM equities, while investors reevaluated expectations from developed markets and redirected flows to EM in search of higher yields. As a result of the change in stance of the US Fed, the US dollar stabilized early in 2019, a big positive for emerging economies which had suffered as the dollar strengthened through 2018. A significant proportion of gains was registered in January – the broad MSCI EM index gained nearly 9% in January, before running out of steam through February and March, when it posted returns of 2% in total.

In Brazil, the start of the presidential term of Jair Bolsonaro caused markets to continue their rally into Q1. Bolsonaro's key promises of pension reform, privatization of dominant state-owned enterprises, and tax cuts have bolstered the economic outlook for the country. Although Brazil's growth slowed to 1.1% in the last quarter of 2018, major economic indicators expanded, pointing to a brighter 2019. Elsewhere in South America, the Argentinian economy painted a gloomier picture. With inflation running at an annual rate above 50%, the Argentinian central bank inevitably raised interest rates to over 65% to control inflation and defend the weakening peso. Economic activity seems to have stagnated, as the manufacturing sector posted a double digit decline in output for January. These factors have called into question the effectiveness of the IMF agreement, which demands further fiscal cuts at a time when the economy is struggling.



## Asia

Early in the year, China slashed business taxes to stop its economy from slowing too sharply. The government predicted economic growth of between 6% and 6.5% for the year, representing a decrease from last year's 6.6% growth rate, the weakest in three decades. Chinese growth lost momentum following government efforts to crack down on risky lending, which cut-off many companies from critical funding needed for expansion. The world's second largest economy has started feeling the effects of the trade war with the US, which resulted in new tariffs on about \$250 billion of Chinese exports. In addition to the tax cuts, efforts to stimulate economic growth included higher infrastructure spending and looser monetary policy.

The government has been urging large, state-owned banks to lend to smaller, privately-run businesses. These companies contribute to the bulk of economic growth and employment, but have traditionally had more difficulty accessing credit than their larger, state-owned peers, causing many to turn to the shadow banking system to source funds. Attempting to alleviate this issue, late in 2018, the People's Bank of China announced a special tool for lending to smaller businesses called the Targeted Medium-Term Lending Facility, which seems to have opened up financing flows to these businesses.

As per the China Beige Book, the rate of borrowing by private companies surpassed that of state-owned enterprises, and corporate borrowing reached its highest level since mid-2013. Further, the proportion of loans made through the shadow banking system increased for a second straight quarter to the highest level since 2016. However, the cost of that borrowing increased, with nearly every region in China seeing credit costs rise in Q1 versus the prior quarter. The average bank loan rate was up 101 basis points to 6.9%, and the average non-bank rate was up 426 basis points to 11.42%.

However, the quarter ended with positive news. The Caixin China manufacturing purchasing managers index rebounded to expansionary territory for the first time in four months. This after the release of China's official manufacturing PMI, which rose to a six-month high in March.

In Japan, the National Diet passed a record ¥101.5 trillion (\$920 billion) budget for 2019. It includes an increase in spending for social security and defense along with additional stimulus measures to boost the economy after a planned consumption tax hike. An integral component is a ¥2.03 trillion (\$18 billion) stimulus package that Prime Minister Abe hopes will support domestic demand after the consumption tax is increased to 10% in October from the current 8%. The package includes a rebate for purchases made by cashless means, shopping vouchers for households with low incomes or young children, and spending to shore up infrastructure against natural disasters. The largest portion of the budget, a record ¥34.06 trillion (\$310 billion), has been set aside for social security payments including health care and pensions, as these costs continue to rise with an aging population.

Abe's Cabinet signed off on a draft of the budget late in 2018. However, afterwards it was discovered that government officials had been publishing erroneous jobs data for nearly 15 years. The faulty data was responsible for the underpayment of work-related benefits to more than 20 million people, necessitating the additional commitment of ¥650 million (\$6 million) in the budget to cover reimbursements. A steady rise in government spending means Japan, despite higher tax revenue, remains far from fixing its fiscal health. With public debt at more than twice the size of gross domestic product, the country's condition remains among the worst of major industrialized economies.

## Focus On: Retirement Income

Retirement today is often a time of vigor and recreation – not the end of the road, but the beginning of a new journey. However, this image of retirement as we know it would confound anyone from the early 20<sup>th</sup> century. The average person then didn't retire. If you were alive and able, you simply continued to work. Low wages made saving a practical impossibility, and the interruption of earnings in old age was disastrous.

The creation of Social Security and the availability of public and private pensions dramatically altered the face of retirement. It was no longer an unfortunate state into which some unlucky people would fall, but an expected part of life. Between 1930 and 1990, labor force participation for men over 65 fell from 58% to 15%. In the aftermath of the Great Depression, the economic recovery gave rise to a generation of significantly wealthier retirees than ever before. As baby boomers enter retirement, there is expected to be a massive bulge in the retiree cohort. Population projections by the Social Security Administration indicate that by 2030 the number of working-age professionals will have increased by 13% from 2003, while the number of retirees will have increased by 93% over the same period.

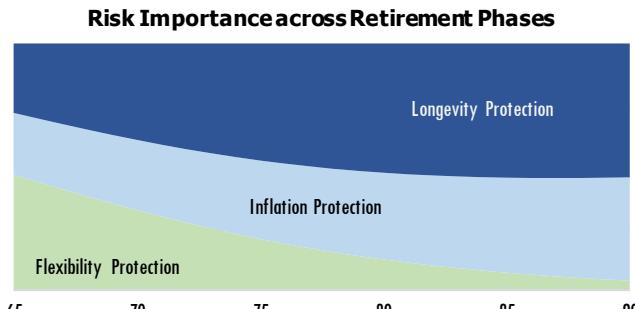
As a growing proportion of these retirees are tasked with designing their own "retirement paycheck" and making sure it lasts the rest of their lifetime, the need for retirement income solutions that focus on the changing risks and financial demands of modern-day retirement is mounting. Finding products and investments that provide the right balance of flexibility, inflation protection and longevity protection is key to a successful retirement.

### Retirement's Present

Most baby-boomers heading into retirement now are expected to live another 20 to 30 years. Spending patterns can sharply change over this time. Just as most people do not have the same spending habits at 45 as they did at 25, needs and lifestyles at 85 will look very different from those most experience right after retirement.

The first stage of retirement for many is the "doing years." From 65 to 75, retirees get around to all the things on the bucket list. Most remain just as active through this phase as they were pre-retirement. Of primary importance through these years is financial flexibility; spending on travel, hobbies and other activities can stretch budgets beyond what was planned. Today, many also support their children during this phase, paying for college, housing and other needs. The longer-term risks of inflation and longevity protection are of secondary importance.

Between the mid-70s and the mid-80s most enter the second phase, where a "slow-go" attitude replaces the "go-go" approach of the first ten years. As unavoidable aging catches up, a significant uptick in medical expenses and a cutback on travel, hobbies and other physically taxing activities often occurs. This phase is marked by a distinct transition towards a



more frugal lifestyle, as retirees focus on reducing expenditures to ensure assets are not depleted before the final stage. Minimizing uncertainty around the adequacy of assets is vital.

The “no-go” phase from 85 onwards is one where most are limited by their health and finances. With little time spent pursuing activities, the main expenditures are typically medical expenses and long-term care costs. Longevity risk overshadows other factors at this age, as additional years increase the chance of outliving assets. The distinct risks of each phase require solutions with a better understanding of individual household’s economic wealth and consumption habits.

### Time to retire the old ideas?

The conventional rule of thumb for projecting retirement income needs is the 70% rule, which states that individuals should aim to generate 70% of their final year after-tax income is too simplistic to effectively prepare most people for retirement. The other commonplace rule of “4% withdrawals” fails to provide adequate flexibility around the impact of market fluctuations on yearly returns. The graphic alongside shows the variability of income as investment returns fluctuate across three scenarios. While in the best case, withdrawals for every \$100,000 in assets continually increase if the 4%

rule is employed, in the worst case, withdrawals of 4% during downturns permanently impair future returns and almost wipe out total wealth. Neither considers factors such as fixed assets, consumption habits and changes in expenses over time.

A new approach challenges the “one size fits all” replacement rates and pays attention to the income required to maintain a retiree’s standard of living. Known as the Living Standards Replacement Rate (LSRR), this method was first designed and proposed by Dr. Bonnie-Jeanne MacDonald in her paper, “Introducing the Living Standards Replacement Rate (LSRR)”, published in 2016.

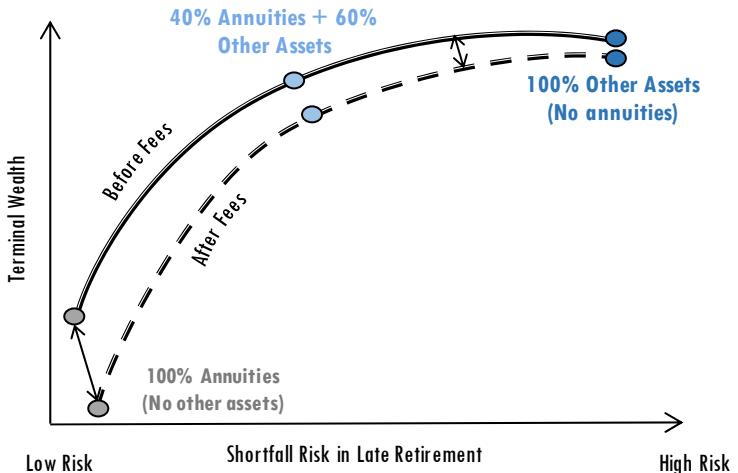
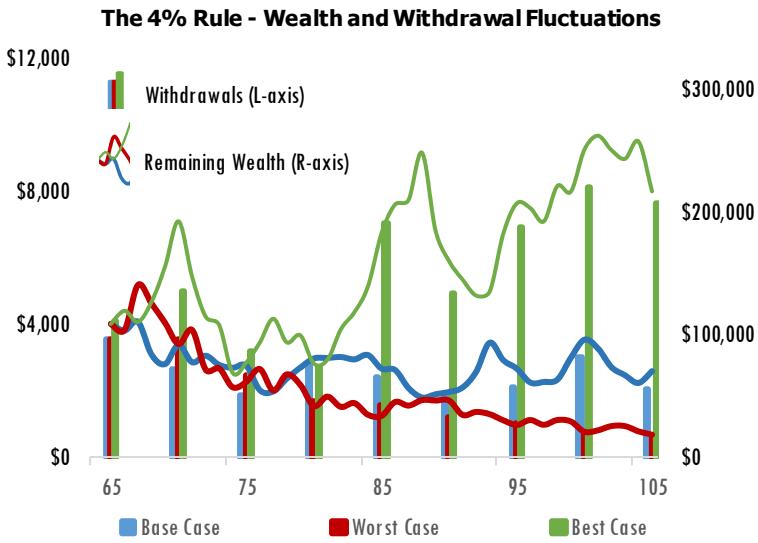
The LSRR considers the family as a whole, takes into account consumption components, and covers a representative number of years. It has gained traction recently, with several large Canadian pension plans

propagating its use and the Irish government using it to reform their pension plans as well. While the method provides a more accurate and consistent measure of retirement income adequacy, it requires a significant amount of input from individuals about resources that are not directly observable for the plan sponsor. The LSRR considers disposable income over a broader period to smooth consumption expectations, includes government transfers and adjusts for dissaving through retirement at a family level.

### Retirement Income Tools

Regardless of how we try to quantify the amount of resources needed in retirement, the truth is that there’s a dearth of appropriate tools to generate that income and help retirees transition into a successful retirement. Increasingly DC plan sponsors are attempting to retain retired participants within the plan by providing proper investment vehicles designed specifically for decumulation. According to a 2018 PIMCO survey of plan investment consultants, three out of every four DC plans was considering a retiree-focused investment option, up significantly from just over half of all plans in 2017.

Solutions were designed specifically for a retirement tier can include a variety of tools – partial/complete annuitization, inflation hedging, and the addition of asset classes beneficial for decumulation, to name a few. Within retirement tiers, there’s a wide spectrum of income objectives. To be effective, tiers may have to provide strategies ranging from low-risk, stable income generation to more ambitious income goals for retirees with a higher risk tolerance. Retirement income can be generally classified into three

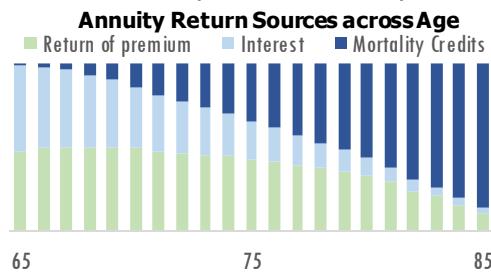


broad levels: 1) what is essential for survival, 2) what would provide a comfortable living and 3) what would afford additional luxuries. Each level relates to unique mental "risk buckets" for which different solutions are required.

With more awareness about the need for income security in the final stages of retirement, one would expect annuities to be a popular choice among retirees without incomes from DB plans. A "floor" of basic income required for survival could be guaranteed by an appropriate allocation to annuities. This would prevent the risk of shortfall – the possibility of running out of income generating assets. But when offered the choice, nearly all retirees decline to buy one. The reasons behind this abound. For starters, buying annuities can be complicated and scary. Once you buy an annuity, you can't replace it or get out of it. 401(k) plan participants who are used to a narrow set of investment options find the prospect of shopping for an annuity with hundreds of thousands of dollars at stake quite daunting.

The main deterrent preventing retirees from purchasing annuities is the notion of losing control of their principal. A solution that alleviates these concerns is available in the form of managed payout funds – similar to annuities, these products aim to provide a steady (but not guaranteed) stream of monthly incomes, while allowing individuals to remain in control of their capital. The compromise for the added flexibility is that most of these funds are designed to generate income for around twenty years. Beyond that, the risk of depletion runs high once again. Since the capital invested can be pulled out, those living longer don't benefit from the "mortality credits" of those who die younger as with annuities.

While the guarantee (or lack thereof) of steady payments from managed payout funds may leave retirees wanting, more sophisticated investors with a stronger understanding of their retirement requirements can implement a liability driven investing approach that immunizes cash flow needs over their expected lifespans. This can be done by a simple cash flow approach using bonds or defined maturity funds that pay out principal plus interest earned over specific number of years. In a manner comparable to DB plans, investors can also estimate the "duration" of their expected lifetime and expenses and invest their assets in instruments with similar characteristics. While this approach limits the market risk of assets to a minimum, it requires a high level of financial sophistication to plan and implement effectively.



## The Way Ahead

When it comes to tapping into your nest egg, there is no off-the-shelf solution that suits everyone. Accumulation of retirement savings can be improved using non-personalized nudges such as auto-enrollment in a company's 401(k) and auto-escalation of contributions. However, decumulation requires a highly personalized approach, in which the solutions are tailored to reflect the goals, circumstances and preferences of the individual. A first step in preparing participants for retirement income planning is a focused education on the differing foreseen and unforeseen expenses and risks in retirement as well as the tools available to effectively plan for it.

After that, providing for retiree-focused instruments with stable returns within the trusted confines of DC plans can reduce the burden on retirees of converting a pool of lifetime savings into a stream of income which can last the remainder of their lifetimes. However, most sponsors still feel that the fiduciary risks associated with lifetime income products is too high until government policy changes.

The SECURE Act, passed unanimously by the House Ways and Means Committee on April 2<sup>nd</sup>, aims to provide a safe harbor provision for employers who provide annuities in their 401(k) plan and to increase access to, and portability of, lifetime income products within DC plans. While this is a small step in the right direction, to truly reduce the burden on retirees we need to design and implement cost-effective solutions which find the balance between protection, liquidity and portability.

